

ABSTRACT OF DISCLOSURE

5 A circuit and method provides for the protection of transducers from over excursion, particularly for the protection of transducers for audio loudspeakers. A frequency dependent excursion limiter circuit has an initial summing stage followed by a shaping filter stage. A clamping function is provided at the summing stage, or at a separate stage between the summing stage and the shaping filter stage, for clamping the driving signal at a predetermined maximum voltage if the driving signal exceeds the predetermined maximum voltage level. The shaping filter stage provides a frequency response shaping function based on a predetermined frequency response shaping criteria which is related to the frequency dependent excursion limits of the transducers being protected from mechanical overload. An inverse shaping filter function is provided at the initial summing stage by providing feedback from the shaping filter stage, thus eliminating the need for a separate inverse shaping filter circuit before clamping. The inverse shaping filter function allows low level signals below clamping to pass through the circuit unaffected.

15 A frequency dependent excursion limiter circuit is also provided in the closed loop circuit of servo feedback system for protecting transducers in a servo feedback system from over excursion.